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Patent

## In the United States Patent and Trademark Office

Application No. 10/625,060

Confirmation No. 8260

Applicant: Bryan B. Sauer *et al*

Filed: July 22, 2003

Group Art Unit: 1774

Examiner: Jill Gray

Docket No. CL-1833 US NA

Customer No. 23906

October 29, 2007

**Declaration of Bryan B. Sauer under 37 CFR §1.132**

Mail Stop Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

Sir:

Bryan B. Sauer hereby states and declares as set forth in the numbered paragraphs below:

1. I am a senior research associate employed by E.I. du Pont de Nemours and Company in Wilmington, Delaware. I received a Ph.D. degree in physical chemistry from the University of Wisconsin-Madison in 1987, and I was a postdoctoral research fellow in Chemistry and Chemical Engineering from Jan. 1987- Sept. 1988 at the University of Wisconsin-Madison. I have since that time been continuously employed

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in polymer and fiber chemical research at DuPont where my activities fall primarily into the fields of mechanical and morphological properties of fibers and films including polymer blends.

2. I am a co-inventor of the patent application that is being examined under SN 10/625,060. This patent application describes, in general, polymeric fibers, tapes and films made from a segmented thermoplastic, elastomeric polymer and an olefinic thermoplastic, elastomeric polymer. One particular embodiment covered by this patent application involves a fiber composed of a propylene homopolymer, characterized by a crystallinity of from about 10 to about 40% and an end of melting at about 160°C, that is dispersed in a matrix of a segmented polymer.

3. In a fiber as described in Paragraph 2, the propylene homopolymer is dispersed in a matrix of the segmented polymer generally as a result of a lower content of the propylene homopolymer than the segmented copolymer in the composition from which the fiber is spun. The content of the propylene homopolymer in such a spinning composition will thus generally be less than 50 percent.

4. Fibers made from a composition having a lower relative amount of a propylene homopolymer exhibit various favorable fiber properties to a greater extent than fibers made from a composition having a higher relative amount of a propylene homopolymer or other type of thermoplastic olefin elastomer. Examples of such favorable fiber properties include a combination of low percent set, high elongation to break, and low viscosity for processing, and the presence of such properties may be indicated by the performance of a fiber in various mechanical tests.

5. While the presence of favorable properties in a fiber made from a composition having a lower relative amount of propylene homopolymer may be illustrated by comparing the test results of such a fiber to those of a fiber made from a composition having a higher relative amount of a propylene homopolymer or other type of thermoplastic olefin

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elastomer, a useful comparison may also be made to the performance of a fiber made wholly from a propylene homopolymer or other type of thermoplastic olefin elastomer. The results of the tests conducted in Experiment 5, as reported in the specification, may therefore be taken as instructive.

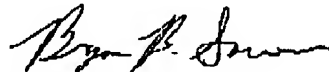
6. In Experiment 5, the results for the fiber of Example 6 show the presence therein of desirable properties in respect of a relatively low percent set, a relatively high percent elongation to break and a relatively high percent recovery. As noted on page 15 at lines 3-4, the addition of the polypropylene component to the segmented polymer also lowered the fiber processing temperature by at least 20°C. It may thus be seen that the results in the reported categories for the fiber of Example 6 are superior to those for the fiber of Control G, which is prepared from 100% propylene homopolymer.

7. In addition, it would be expected that the performance of the fiber of Example 6 would also be superior to the performance of the fiber of a hypothetical Control G' where the Control G' would represent a variation on Control G in terms of the content of the composition from which the fiber is made. The fiber of Control G' would be prepared from a composition that would be the opposite of the fiber of Example 6 in the sense that a segmented copolymer would be dispersed in a matrix of a propylene homopolymer or other type of thermoplastic olefin elastomer. As Control G' would thus have a content of greater than 50% propylene homopolymer or other type of thermoplastic olefin elastomer, although not up to the 100% level of Control G, the performance of the fiber of Control G' would be slightly better than that of Control G, but would still definitely be inferior to the performance of the fiber of Example 6.

8. I declare that all statements made herein of my own knowledge are true, and that all statements made on information and belief are believed to be true; and declare further that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C.

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§1001. and that such willful false statements may jeopardize the validity of this application or any patent issued thereon.



Bryan B. Sauer

Date signed: October 29, 2007